Amendments To Claims

1-8. (Canceled).

9. (New) A method for reducing space for holding a representation of a routing network, comprising the steps of:

generating a shared data structure for representing a group of elements in the routing network;

generating a set of unshared data structures each for representing a corresponding element in the routing network that is not included in the group;

storing a set of state information into each unshared data structure such that the state information enables the shared data structure to represent all of the elements in the group.

10. (New) The method of claim 9, wherein the step of generating a shared data structure comprises the step of generating a shared data structure for representing a group of switches in the routing network.

11. (New) The method of claim 10, wherein the step of generating a set of unshared data structures comprises the step of generating a set of unshared data structures each for representing a corresponding wire in the routing network.

12. (New) The method of claim 11, wherein the step of storing a set of state information into each unshared data structure comprises the step of storing a set of state information that identifies a switch location in the routing network for the corresponding wire.

13. (New) The method of claim 10, further comprising the

step of determining the group of switches by detecting a pattern of switches along a wire of the routing network.

14. (New) The method of claim 13, wherein the step of generating a shared data structure comprises the step of generating an array of switch data structures each corresponding to a location in the pattern.

15. (New) The method of claim 10, further comprising the step of providing a method for determining a location in the routing network for each switch in response to the shared data structure and the state information.

16. (New) The method of claim 9, wherein the routing network pertains to a field programmable gate array.

17. (New) The method of claim 9, further comprising the step of constructing a routing-resource graph in response to the shared and unshared data structures.

18. (New) A computer-readable storage medium that contains a program that when executed generates a representation of a routing network by:

generating a shared data structure for representing a group of elements in the routing network;

generating a set of unshared data structures each for representing a corresponding element in the routing network that is not included in the group;

storing a set of state information into each unshared data structure such that the state information enables the shared data structure to represent all of the elements in the group.

19. (New) The computer-readable storage medium of claim 18, wherein generating a shared data structure comprises

generating a shared data structure for representing a group of switches in the routing network.

20. (New) The computer-readable storage medium of claim 19, wherein generating a set of unshared data structures comprises generating a set of unshared data structures each for representing a corresponding wire in the routing network.

21. (New) The computer-readable storage medium of claim 20, wherein storing a set of state information into each unshared data structure comprises storing a set of state information that identifies a switch location in the routing network for the corresponding wire.

22. (New) The computer-readable storage medium of claim 19, further comprising determining the group of switches by detecting a pattern of switches along a wire of the routing network.

23. (New) The computer-readable storage medium of claim 22, wherein generating a shared data structure comprises generating an array of switch data structures each corresponding to a location in the pattern.

24. (New) The computer-readable storage medium of claim 19, further comprising determining a location in the routing network for each switch in response to the shared data structure and the state information.

25. (New) The computer-readable storage medium of claim 18, wherein the routing network pertains to a field programmable gate array.

26. (New) The computer-readable storage medium of claim

18, further comprising constructing a routing-resource graph in response to the shared and unshared data structures.